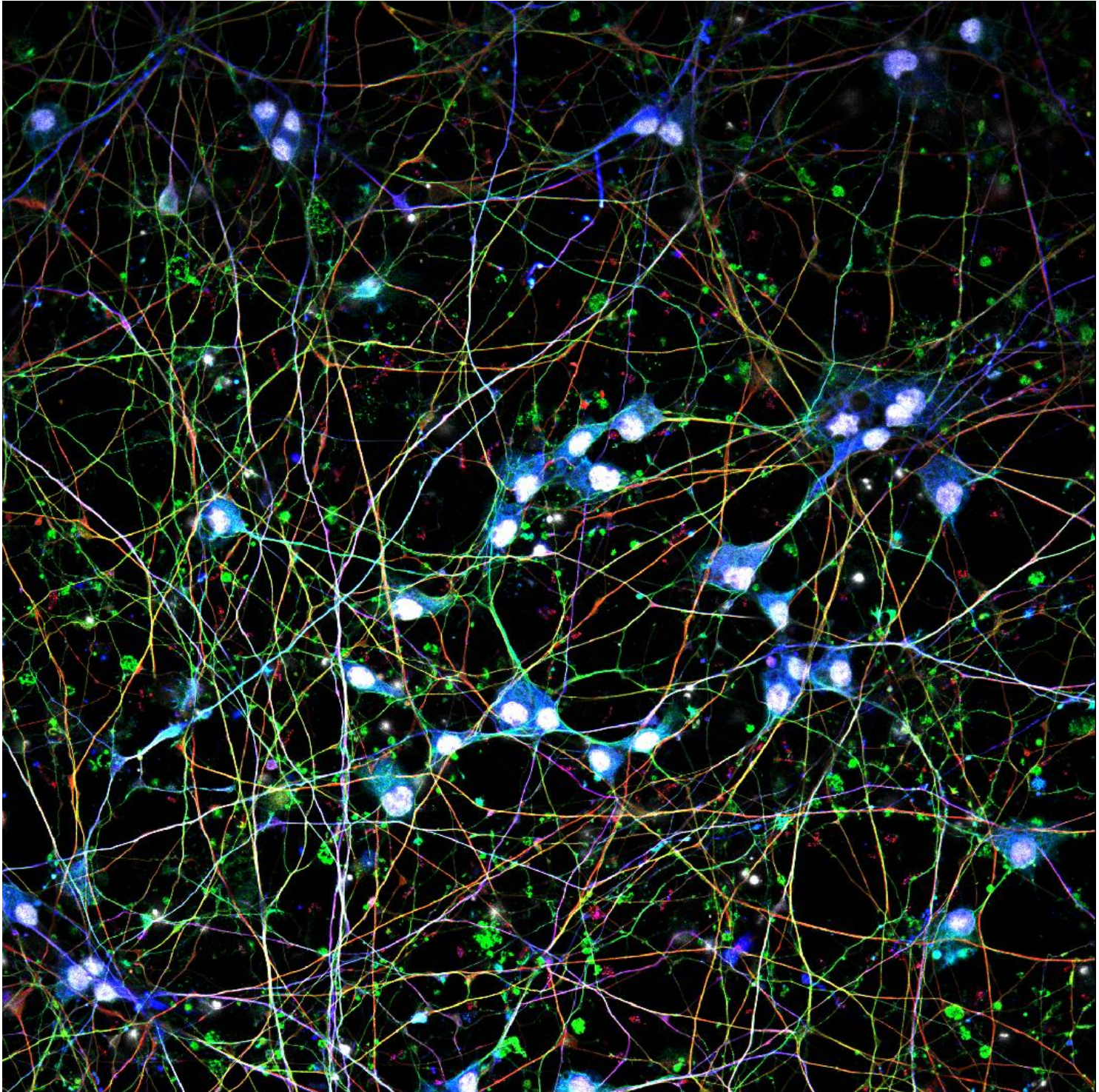




THE GSCHRONICLES

The Official Newsletter of the NIH Graduate Student Community



Human touch in a dish
Alec Nickolls, (NINDS, Brown University)

In this issue

Upcoming OITE Events.....Page 1

Welcome.....Page 2

GSC Update.....Page 3

Career Symposium.....Page 7

Alumni Spotlight.....Page 9

Recent Graduates: Where are they
now?.....Page 11

Student Achievements, Awards, and
Publications.....Page 14

Upcoming OITE Events

Discussions for Building Resilience

Building 2, Room 2W15

Talking with your PI/Difficult Conversations
Aug 16 – 10:15-11:15

Navigating NIH as an International Trainee
Aug 20 – 1:45-2:45

Processing Grief
Aug 20 – 4:15-5:15

Trainees with Children
Aug 20 – 3:00-4:00

Navigating life and NIH while dealing with emotional and psychological challenges
Aug 30 – 9:00-10:00

Trainees with disabilities
Aug 30 – 10:15-11:15

Stress management and wellness for scientists

Bld 549 Auditorium – Frederick
Aug 23 – 1:00-3:00

Shady Grove: Discussion for Resilience

NCI Shady Grove, 9609 Medical Center Drive, Room 2E908
Aug 20 – 2:30- 3:30

Academic Job Search:

Applying

Building 35, Room 620/630

Sep 04 – 9:30-11:00

Workplace Dynamics I/II: Self-Awareness, the key to professional success

Building 50, Room 1227
Sep 10 – 10:00-12:00

Assertiveness for Scientists: How to ask for what you need in the lab and life

Building 40, Room 1201/1203
Sep 17 – 10:00-12:00

Becoming a resilient scientist

Building 50, Room 1227
Sep 26 – 2:00 – 4:30

Industry Careers Overview and Job Packages

Building 35, Room 610
Oct 02 – 10:00-11:30

Workplace Dynamics III: Conflict and Feedback

Building 35, Room 640
Oct 15 – 3:00-5:00

Career Planning for Scientists

Building 49, Room 1201
Oct 29 – 11:30-1:00

Finding mentors and Building networks

Graduate Student Lounge
Aug 28 – 12:30 – 1:30

Manna Food Bank

Aug 15

Fellows Blood Drive

Sept 4-5

Annual Graduate Student BBQ

Early September

Welcome!

To all the new graduate students joining us at the NIH this year, welcome!
To those of you who are returning, welcome back!
And, to those who were already here, welcome again!

On behalf of the staff at the Graduate Student Chronicles, we extend our best wishes and hope that you will enjoy your experience here at the NIH as much as we have. Here, you will find a glimpse into some of the **activities your fellow graduate students have engaged** in the last few months; a **list of some of exciting upcoming events**; and a **glimpse into the accomplishments** of our graduate student community.

For those of you who are more artistically inclined, we again invite you to submit to the Art of Science competition, the details of which will be announced in the winter issue of this newsletter. During our previous competition, we received multiple jaw-dropping, gorgeous images – the selection process was not easy – from which we selected the winning image for the cover of this issue.



GSC Update

The **Graduate Student Council** consists of seven committees and liaisons, tasked with improving the lives of graduate students at the NIH. Here's an update from the committees!

If you want to get involved with the Graduate Student Council, we are still looking to fill some positions (see below). It's a lot of fun and a great resume booster. Contact the co-chairs at GSCcochairs@mail.nih.gov to learn more



GSC Update

Community Service/Mentor/Outreach Committee: This committee provides various volunteering opportunities and mentor/outreach events. The main volunteering events hosted throughout the year involve volunteering at the Manna Food Bank, where we help pack up boxes of food that are distributed to communities in need. The past events we held in June were a lot of fun and helped provide food to over 170 families. We organize these events usually once every two months, so keep an eye out for the next Volunteer Manna Food Bank event!

The mentor/outreach of this committee organizes **Mentor Lunches** as an opportunity to hear from top NIH PIs to gain from their experiences and words of wisdom about the role of science today. We also organize the **PhDs in the Real World** seminar series, bringing in GPP alumni that are currently in jobs of industry, government, and academia displaying the wide variety of career paths available to us following our PhD completion. Our past events this summer have included hosting Dr. Maggie Scully, a senior strategic business development analyst at Frederick National Laboratory for Cancer Research, Dr. Michael Ferenczy, an engagement manager at McKinsey & Company, and Dr. Robert Lin who is a publications manager at GSK.

Be sure to attend our upcoming community service and mentoring/outreach programs throughout the rest of the year!

FAES Liaison

The Foundation for Advanced Education in the Sciences (FAES) provides educational and professional services as well as fosters a collegial environment for the NIH scientific community. They also help provide us graduate students with the amazing **Graduate Student Lounge in Building 10, Room 3330 on 4th floor**. If you haven't checked it out, be sure to go grab a free cup of coffee and take a break in there!! Email Phil Ryan to get PIV card access.

<https://www.training.nih.gov/gsc/lounge>

GSC Update

GS3 Committee

The Graduate Student Seminar Series (GS3) is a great opportunity for fellow graduate students to give informal talks in an easy environment to get useful critiques on your presenting skills and to promote discussion on your research. Most recently we had three presenters talk about their thesis research on various diseases/disorders: Alisson Goff on microRNA targets for Premenstrual Dysphoric Disorder, Keith Schmidt on prostate cancer drug treatment trials, and Dwayne Bryne presented on inherited motor neuron disease-causing proteins. Be sure to join us for the upcoming talks!

Upcoming GS3 talks (followed by GSC meeting): 5pm in the Graduate Student Lounge

August 27 th , 2019	Rodrigo Matus Nicodemos
September 24 th , 2019	Rebekah Langston
October 29 th , 2019	Merage Ghane
November 26 th , 2019	Sushant Praktar
December 17 th , 2019	Jose Delgado

PR Committee

The Public Relations Committee helps advertise the various graduate students' events happening throughout the year. Be sure to keep up-to-date with all graduate student information and events through our networks: Visit the GSC website at <https://www.training.nih.gov/gsc>. Join our “**Graduate Student Underground**” Facebook and Google groups. The PR Committee also compiles **The GSChronicles** newsletter articles written by graduate students, for graduate students! Please email GSCcochair@mail.nih.gov if you need help accessing these networks or are interested in gaining some writing experience with **The GSChronicles**.

GSC Update

Social Committee (more members needed**)**

The social committee helps organize various types of social events. These events have included local happy hours, movie & game nights, trivia competitions, sport watching/fantasy leagues, ski trip, camping and biking weekends as well as the upcoming Annual Summer BBQ event. We also coordinate events with the postdoc and postbac communities to promote fellow interactions. Our main goal is to help bring the graduate students together to make sure you know that you are not alone on the big NIH campuses. The beginning of the summer has been busy with social hours alongside the Visiting Fellows Committee, a welcome social hour and a welcome lunch with all new and old graduate students. We also all had a blast at the Graduate Student Retreat and social hour as well as the DC United soccer game with postdocs. Be sure to stay connected to get details of our upcoming events, including the ANNUAL SUMMER BBQ happening in September!!

Fellow's Committee Liaison (more members needed**)**

The Felcom Liaison represents the graduate student community at the postdocs' Felcom meetings to help bolster a positive relationship between the two groups and to make joint efforts to improve clinical and basic research experiences for all fellows while at NIH. The GSC often co-organizes events with the postdocs, such as social hours and attendance to various sports games. Be sure to attend these events to meet other fellows and future peers!

Postbac Liaison

Looking to connect with your future colleagues/mentees? The GSC added a Postbac Liaison to help further connect the graduate students to other communities at the NIH. The Postbac Liaison helps work with the postbac representative to coordinate co-sponsored events. We had a fun social hour in Bethesda in May and then an awesome bowling night in June. Be sure to attend our upcoming events!

Career Symposium

The 12th Annual NIH Career Symposium was held on May 10th, 2019. For graduate students, the event serves as an introduction to the diversity of career opportunities available to those with a doctorate-level training in the sciences. The Symposium presented career options across academia, industry, and non-bench paths. The following descriptions were adapted from the OITE newsletter for the symposium, which can be found at www.training.nih.gov/assets/Career_Symposium_2019_Newsletter.pdf.

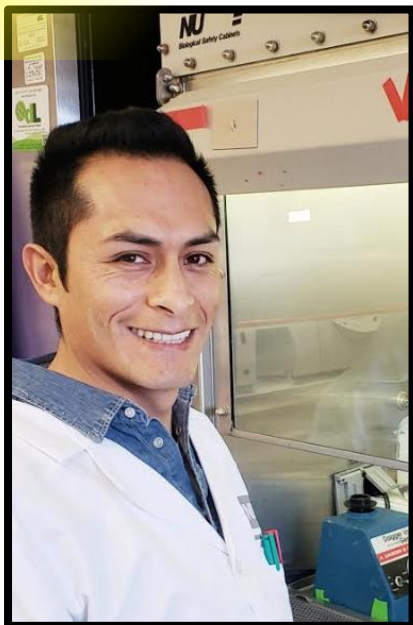
For academic careers, the symposium featured discussions by invited panelists on the structure of academia in the United States, the transition into a faculty position, maintaining success in academia, and teaching intensive careers. The US academic system offers a variety of options from large academic institutions that are funded primarily by research grants to smaller institutions where education and training of undergraduates is more strongly emphasized. For those seeking to transition into a faculty position – these usually require post-doctoral training—early preparation is critical for a successful transition. To maintain success in academia, one key facet is the ability to identify and engage in new research directions, which forms the basis of future projects and grants. Finally, for teaching-intensive careers, demonstrating an early interest and having some teaching experience are key features for this career.

Career Symposium

The symposium focused on the following aspects of a **career in industry**: discovery phase, development phase, and non-bench careers. In careers across industry, the day-to-day work largely resembles the laboratory work seen in academic settings; however there are multiple opportunities to pivot and develop adjacent career paths, especially since companies often hire internally. In the discovery phase, projects often move quickly and a scientist working in this phase must quick to adapt their skillset for new projects. During the development phase, teamwork is critical, as scientists must work across multiple disciplines to advance their drug candidate. For non-bench careers in the industry, the options are diverse ranging from medical science liaisons to project managers. In all cases, the ability to multi-task effectively is very important.

For **non-bench scientific careers**, the symposium covered career in science administration, investment and consulting, science education and outreach, technology transfer and patents, science policy and advocacy, data science and healthcare IT, and science communication. The breadth of these career options extend into academic, public, and private sectors. While the skills required in these fields differ from those utilized in more traditional career paths, much of the experience gained as a graduate student can be translated into a successful career.

Alumni Spotlight



What is your name and what year did you graduate with your PhD and in which program/institute?

I am Rogers Alberto Nahui Palomino. I got my PhD degree on May 3rd, 2018 “PhD in Biotechnological and Pharmaceutical Sciences” at the University of Bologna – Italy.

What and where is your current position?

I am a postdoctoral fellow at the National Institutes of Health (NIH), National Institute of Child Health and Human Development (NICHD).

How did you decide to do a postdoc or to seek employment outside of academia? What pros and cons have you found in your choice?

I came to NIH to do part of my PhD project for 1.5 years and during that period my studies became more and more interesting. I was offered to pursue my research as a postdoctoral fellow. I chose to continue in the same lab because my research project allowed me to acquire new knowledge and techniques within a new research field. Moreover, NIH itself is one of the best places in the world to do research. I did not have any hesitation on deciding to pursue my postdoc at NIH.

How did your training at NIH prepare you for your current position?

All the training I received during my pre-doctoral fellowship at NIH was very helpful. I learned all the necessary techniques and lab equipment used to conduct my research. I learned to be independent in performing and planning my experiments.

What are some challenges you faced during the transition from graduate student to postdoc/or employee?

Most of the research challenges faced during my PhD studies both at the University of Bologna and NIH were writing manuscripts, oral presentations, etc. During the first year as a postdoctoral fellow I presented my work in local and international meetings.

What is your current work focused on?

My research focuses on the study of the protective role of vaginal *Lactobacillus* against HIV-1 infection. Earlier, we demonstrated that several strains of vaginal *Lactobacillus*, isolated from the vaginas of healthy women, inhibited HIV-1 infection in human cervicovaginal and tonsillar tissues *ex vivo*. Currently, I am studying whether the protective anti-HIV-1 effect of vaginal lactobacilli is mediated by extracellular vesicles released by these symbiotic bacteria.

Alumni Spotlight

Where do you see yourself in 2 to 5 years?

In the next couple of years, I will continue conducting research at NIH. After that, maybe combine research and teaching in academia or industry, but preferably in Europe.

If you could do it all over again, is there anything you would do differently?

I am fully satisfied how my career is going so far and I would do it all over again. I started my studies in Peru, then I moved to Italy to pursue my masters and I ended up doing my PhD as well, and now I am here at NIH. I conducted studies in different environments, I published several papers, I received awards, and now I am establishing myself as a known young investigator.

What are your words of wisdom to current graduate students that are looking to get a postdoc or employment after graduation?

Keep working hard! The path to get the PhD degree is not easy at all, be consistent in everything. Remember always: "If you are struggling doing something it means that you are in the right path".

Looking back, what were some of the most valuable lessons you learned and hope to pass on your mentees?

In general, I learned to fully focus on whatever I do and to be very critical with myself, there is always something that can be improved; and that is what I want from people that I am mentoring. I had two mentors that influenced me a lot as a scientist. From the first one, I learned to be very precise performing the experiments and writing manuscripts (for her, if there was an extra space in the manuscript it means that you really did not take a good care about your research). From the other one, I learned to be "independent scientist".

Recent Graduates: Where are they now?

As many of us are deep into our PhD research, thoughts (...or terrors for some) of what to do next may start to appear. Sometimes a few of us can start to see the light at the end of the PhD tunnel, but it only leads to the next long tunnel of job search.

Wherever you may be, hang tough and you will soon hopefully join the many NIH GPP graduates! The next step though...what to do for my career?

The alumni database can be a great tool to take a look at where NIH GPPers have ended up in their career paths or build your network. Please feel free to check out the database at: <https://www.training.nih.gov/alumni> Also, if you graduate, be sure to add your name to the list to help future graduate students!

We asked some of the more recent graduates to see where their paths are taking them next and to provide a little advice they wish they would have followed! Maybe it'll be inspiring, helpful or provide a little light on the next step on your career journey. No matter where life leads you, we wish you all the best of luck!

Questions we asked each recent graduate:

1. What are you planning or have you been doing after receiving your PhD? (job position title, organization name, location). Provide any details about the job or organization such as type of work/research project topic, etc.
2. What year did you graduate and what program at your university was your degree from?
3. Provide title of your dissertation.
4. Any future career goals or path you are working towards?
5. Best advice for job searching?
6. What are you most excited for/enjoy at your next/current position?

Recent Graduates: Where are they now?



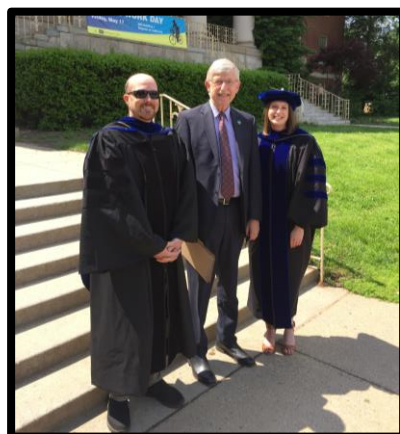
Dr. Carly Starke

1. Postdoc at OHSU in Portland, Oregon in the laboratory of Jacob Estes; starting in September 2019
2. PhD in Microbiology and Immunology from Georgetown University, Spring 2019.
3. Dissertation Title: "SIV-Specific CD8⁺ T Cells are Phenotypically, Functionally, and Clonotypically Distinct Across Lymphoid and Mucosal Tissues"
4. Faculty position at a research intensive university
5. Start networking early



Dr. Jeffrey Lienert

1. I am currently a Postdoc in Behavioral Economics / Health Services Research at the University of Pennsylvania and Philadelphia VA Medical Center in Philadelphia, PA. I am bringing my doctoral expertise of social networks research to a group working on "nudges" and behavioral economics to increase our understanding of how teams and small groups may influence our response to behavioral interventions
2. Defended my dissertation in November 2018, and officially graduated in May 2019. My degree was from the University of Oxford.
3. Dissertation Title: "The social and biological effects of patient-patient co-presence on health in hospitals using electronic medical records"
4. Ideally faculty at a research institution, but fully open to industry if that does not pan out



5. Advice - start looking for jobs early. I put my thesis work on hold for a few months to secure a job early in 2018, then was free for the next six months to focus on my thesis

Dr. Jess Schneller

1. I am staying in my lab for the moment as a postdoc to hopefully finish some papers and look for a job. The six months leading up to my defense were tough, I didn't feel like I could job search and prepare for my defense at the same time.
2. Graduated in May 2019 from SUNY Stony Brook's Biomedical Engineering Dept.
3. Dissertation Title: "Novel Genomic Treatments for Methylmalonic Acidemia".
4. So far I've just been doing informational interviews, talking to anyone with a PhD (many of whom were former grad students or postdocs here) to learn what their career trajectory was like. Right now I would be most interested in a postdoc position at a large pharmaceutical company or possibly a position in life science consulting.

Dr. Idalia Yabe

1. I started a post-doc with NIH/NIAID (Bethesda main campus) immediately after graduating. This is a unique post-doc which consists of half regulatory work and half bench work. My goal is to assist in getting clinical trials to the clinic.

Recent Graduates: Where are they now?

2. I graduated in May 2019 from the Microbiology and Immunology Department at Georgetown University.

3. Dissertation Title:

"Barcoding of macaque hematopoietic stem and progenitor cells: a robust platform to assess vector genotoxicity"

4. One of my goals is to be able to use R software for most (if not all) of my data visualization. To get there, I'm starting with an FAES course starting up this semester.

5. Search for labs/institutions working on projects/things that interest you, then speak with people that know of those labs and get a sense of the type of environment those labs have. After finding out more information on the different labs, you may weed some of them out, rank the remaining labs, and then contact the PI from the labs that interest you the most. Once you get an interview, be sure to speak with everyone in the lab and ask questions of what is important to you because it could be a long commitment (depending on what you want out of it). I got really lucky, I found a place with exactly the type of project I want to work in, have an incredible mentor, and the environment is just the right fit for me (I also spoke with a lot of people and my PhD mentor was incredibly supportive and helpful).

Dr. Thad Whitaker

1. I am a postdoctoral research fellow at the NHGRI with Elaine Ostrander. My lab uses the domestic dog as a genetic model for various diseases, behaviors, physical traits, etc. My work aims to identify genetic variants associated with compulsive behavior.

2. Graduated in 2018 through NIH independent GPP with Texas A&M University

3. Dissertation Title:

"Molecular determinants of photoreceptor presynaptic terminal morphology"

4. I am in the process of applying and interviewing for strategy business consulting positions.

5. Always remember that many skills are gained during a Ph.D. that are transferable to professions other than bench/computer research.

6. My next career step will require lots of travel, and I am excited to see more of the US and the world.

Dr. Mohsin Khan

1. I am a Senior Consultant at Booz Allen Hamilton (Healthcare and LifeScience Consulting).

2. I graduated in Fall 2018 with a PhD in Toxicology from University of Maryland, Baltimore.

3. Dissertation Title: "Mass Spectrometry based structural analysis and systems immunoproteomics strategies deduce specifics of host-pathogen interactions"

4. Healthcare Business Strategy

5. Professional networking in consulting industry is crucial for your success

6. I really enjoy working on a wide variety of projects, including work related to regulatory consulting, business process improvement, policy evaluation, drafting new policies, as well as developing strategies

Dr. Sarah Inwood

1. I'm currently working as an NRC postdoc associate at the National Institute of Standards and Technology. I'm working on genome editing and flow cytometry in the Biosystems and Biomaterials division

2. I graduated in 2018 with a PhD in Chemical and Biomolecular Engineering from Johns Hopkins University.

3. Dissertation Title: "Using intrinsic and extrinsic methods to engineer improved expression of recombinant proteins and retroviral vectors in mammalian cells"

4. I love the environment here at NIST so it would be great if I can get a permanent position here.

5. I hate telling people this because I hated hearing it but for me I happened to find the right person at the right time. Keep your options open by talking to people at trainings and meetings. I met my current advisor at a training and she helped me apply for the postdoc position.

Awards and Publications

Awards

- Emily Phung: Travel Grant Award, ReSViNET Foundation RSVVW 2019
- Vincenzo Mercurio: Young Investigator Award, Italian Conference on AIDS and Antiviral Research 2019
- Jakob Samsel: Intramural AIDS Research Fellowship
- Albert Sek: Travel Grant Award to the International Eosinophil Society Biennial Symposium

Publications

Bacteriology/Virology:

Emily Phung, Lauren A. Chang, Kaitlyn M. Morabito, Masaru Kanekiyo, Man Chen, Deepika Nair, Azad Kumar, Grace L. Chen, Julie E. Ledgerwood, Barney S. Graham, and Tracy J. Ruckwardt. *Epitope-Specific Serological Assays for RSV: Conformation Matters*. *Vaccines*, 2019. 7(1).

Francois de Mets, Laurence Van Melderren, and Susan Gottesman. *Regulation of acetate metabolism and coordination with the TCA cycle via a processed small RNA*. *Proc Natl Acad Sci USA*, 2019. 116 (3): p.1043-1052.

Pipat Piewngam, Zheng Y, Thuan H Nguyen, Seth W Dickey, Hwang-Soo Joo, Amer E Villaruz, Kyle A Glose, Emilie L Fisher, Rachelle L Hunt, Barry Li, Janice Chiou, Sujiraphong Pharkjaksu, Sunisa Khongthong, Gordon YC Cheung, Pattarachai Kiratisin, Michael Otto. *Pathogen elimination by probiotic Bacillus via signalling interference*. *Nature*. 2018;562(7728):532-7.

Pipat Piewngam, Mariam Quinones, Witoon Thirakittiwatthana, Thitiya Yungyuen, Michael Otto, Pattarachai Kiratisin. *Composition of the intestinal microbiota in extended-spectrum beta-lactamase-producing Enterobacteriaceae carriers and non-carriers in Thailand*. *Int J Antimicrob Agents*. 2019;53(4):435-41.

Pipat Piewngam, Michael Otto. *Probiotics to prevent Staphylococcus aureus disease?* *Gut Microbes*. 2019:1-8.

Genomics:

Jicai Jiang, John B Cole, **Ellen Freebern**, Yang Da, Paul M VanRaden, and Li Ma. *Functional annotation and Bayesian fine-mapping reveals candidate genes for important agronomic traits in Holstein bulls*. *Commun Biol*, 2019. 2:212.

Awards and Publications

Immunology/Inflammation:

Natalia S Nunes, Parwathy Chandran, Maggie Sundby, Fernanda Visioli, Fabiany da Costa Goncalves, Scott R Burks, Ana H Paz, Joseph A Frank. *Therapeutic ultrasound attenuates DSS-induced colitis through the cholinergic anti-inflammatory pathway*. EBioMedicine, 2019.

Albert C Sek, Ian N Moore, Margery G Smelkinson, Katherine Pak, Mahnaz Minai, Roberta Smith, Michelle Ma, Caroline M Percopo, Helene F Rosenberg. *Eosinophils do not drive acute muscle pathology in the mdx mouse model of Duchenne Muscular Dystrophy*. J Immunol, 2019. 203 (2): p.476-484.

Michelle Ma, Caroline M Percopo, Daniel E Sturdevant, **Albert C Sek**, Hirsh D Komarow, Helene F Rosenberg. *Cytokine Diversity in Human Peripheral Blood Eosinophils: Profound Variability of IL-16*. J Immunol, 2019. 203 (2): p. 520-531.

Neurobiology:

Heather L Rusch, Jeffrey Robinson, Sijung Yun, Nicole D Osier, Christiana Martin, Chris R Brewin, Jessica M Gill. *Gene expression differences in PTSD are uniquely related to the intrusion symptom cluster: a transcriptome-wide analysis in military service members*. Brain Behav Immun, 2019.

Heather L Rusch, Michael Rosario, Lisa M Levison, Anlys Olivera, Whitney S Livingston, Tianxia Wu, Jessica M Gill. *The effect of mindfulness meditation on sleep quality: a systematic review and meta-analysis of randomized controlled trials*. Ann N Y Acad Sci, 2019. 1445 (1): p 5-16.

Merage Ghane, Tim Sparer. *An Integrative and Mechanistic Model of Impaired Belief Updating in Schizophrenia*. J Neurosci, 2019. 39 (29): 5630-5633.

Metabolism:

Muideen T Olaiya, **Lauren E Wedekind**, Robert L Hanson, Madhumita Sinha, Sayuko Kobes, Robert G Nelson, Leslie J Baier, William C Knowler. *Birthweight and early-onset type 2 diabetes in American Indians: differential effects in adolescents and young adults and additive effects of genotype, BMI and maternal diabetes*. Diabetologia (2019).

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Want to contribute?

We are looking for content for the next Chronicles issue!

Artwork: Have a doodle, comic, or drawing?

Creative Writing: Write poetry, short stories, or essays and looking for somewhere to disseminate your work?

Student Spotlight: Introduce yourself to your fellow grad students by writing a short blurb about yourself and your experience at NIH.

Research: Have some cool research you recently published or presented?

Send your art, writing, publications, awards, and graduation announcements to GSChronicles@od.nih.gov